



PROBLEM SUMMARY

Sample Rating Trend

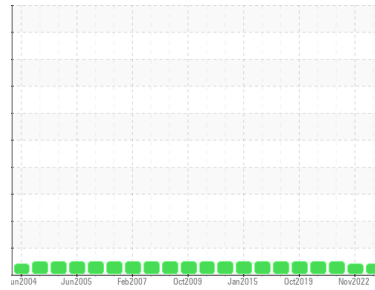
VISCOSITY



Machine Id
VOLVO 12317

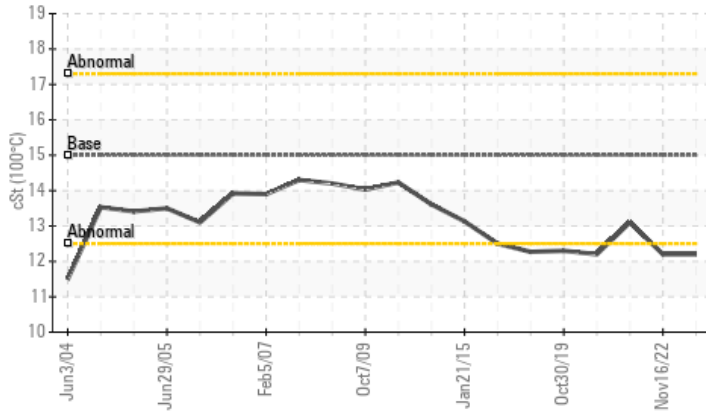
Component
Front Diesel Engine

Fluid
SHELL ROTELLA T4 15W40 (20 QTS)



COMPONENT CONDITION SUMMARY

▲ Viscosity @ 100°C



RECOMMENDATION

Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor.

PROBLEMATIC TEST RESULTS

Sample Status				ATTENTION	ATTENTION	NORMAL
Visc @ 100°C	cSt	ASTM D445	15	▲ 12.2	▲ 12.2	13.1

Customer Id: PGTNOK
Sample No.: WC0836894
Lab Number: 05966906
Test Package: FLEET



To manage this report scan the QR code

To discuss the diagnosis or test data:
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jhester@wearcheckusa.com

To change component or sample information:
Customer Service +1 1-800-237-1369
customerservice@wearcheck.com

RECOMMENDED ACTIONS

Action	Status	Date	Done By	Description
Change Fluid	---	---	?	Oil and filter change at the time of sampling has been noted.
Change Filter	---	---	?	Oil and filter change at the time of sampling has been noted.

HISTORICAL DIAGNOSIS

16 Nov 2022 Diag: Doug Bogart

VISCOSITY



Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor. All component wear rates are normal. Light fuel dilution occurring. No other contaminants were detected in the oil. The oil viscosity is lower than normal. The BN result indicates that there is suitable alkalinity remaining in the oil. Confirm oil type.

[view report](#)



22 Dec 2021 Diag: Wes Davis

NORMAL



Resample at the next service interval to monitor. All component wear rates are normal. There is no indication of any contamination in the oil. The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

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10 Dec 2020 Diag: Wes Davis

NORMAL



Resample at the next service interval to monitor. All component wear rates are normal. There is no indication of any contamination in the oil. The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

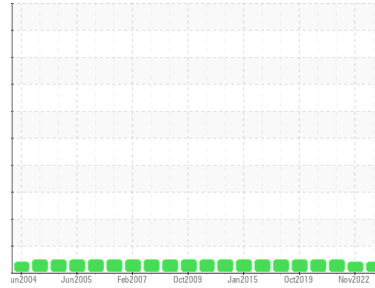
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OIL ANALYSIS REPORT

Sample Rating Trend



VISCOSITY



Machine Id
VOLVO 12317
 Component
Front Diesel Engine
 Fluid
SHELL ROTELLA T4 15W40 (20 QTS)

DIAGNOSIS

▲ Recommendation

Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

Contamination

There is no indication of any contamination in the oil.

▲ Fluid Condition

The oil viscosity is lower than normal. The BN result indicates that there is suitable alkalinity remaining in the oil. Confirm oil type.

SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		WC0836894	WC0692737	WC0617663
Sample Date	Client Info		26 Sep 2023	16 Nov 2022	22 Dec 2021
Machine Age	mls	Client Info	1031470	986950	944231
Oil Age	mls	Client Info	12000	11290	10891
Oil Changed	Client Info		Changed	Changed	Changed
Sample Status			ATTENTION	ATTENTION	NORMAL

CONTAMINATION

	method	limit/base	current	history1	history2
Glycol	WC Method		NEG	NEG	NEG

WEAR METALS

	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m >100	5	6	8
Chromium	ppm	ASTM D5185m >20	<1	<1	<1
Nickel	ppm	ASTM D5185m >2	0	0	0
Titanium	ppm	ASTM D5185m	0	<1	2
Silver	ppm	ASTM D5185m >2	0	0	<1
Aluminum	ppm	ASTM D5185m >25	0	2	3
Lead	ppm	ASTM D5185m >40	<1	<1	<1
Copper	ppm	ASTM D5185m >330	1	<1	<1
Tin	ppm	ASTM D5185m >15	<1	<1	<1
Antimony	ppm	ASTM D5185m	---	---	<1
Vanadium	ppm	ASTM D5185m	<1	0	<1
Cadmium	ppm	ASTM D5185m	0	0	0

ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	144	310	8
Barium	ppm	ASTM D5185m	0	0	0
Molybdenum	ppm	ASTM D5185m	21	73	4
Manganese	ppm	ASTM D5185m	<1	<1	<1
Magnesium	ppm	ASTM D5185m	96	357	39
Calcium	ppm	ASTM D5185m	1981	1522	2249
Phosphorus	ppm	ASTM D5185m	923	1003	913
Zinc	ppm	ASTM D5185m	1148	1215	1057
Sulfur	ppm	ASTM D5185m	3354	3848	2919

CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >25	3	3	3
Sodium	ppm	ASTM D5185m	2	<1	0
Potassium	ppm	ASTM D5185m >20	2	0	2
Fuel	%	ASTM D3524 >6.0	<1.0	1.9	<1.0

INFRA-RED

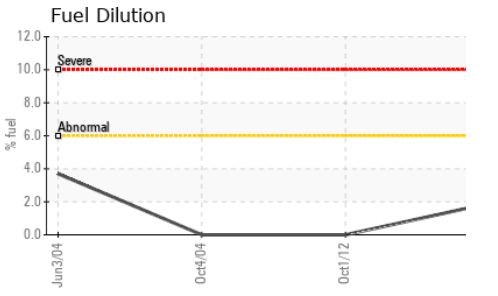
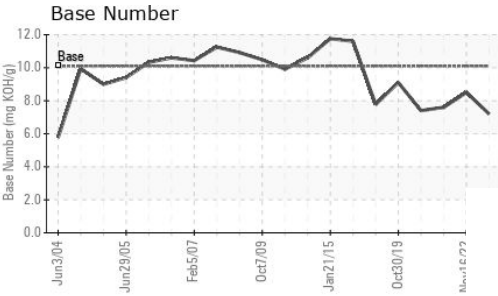
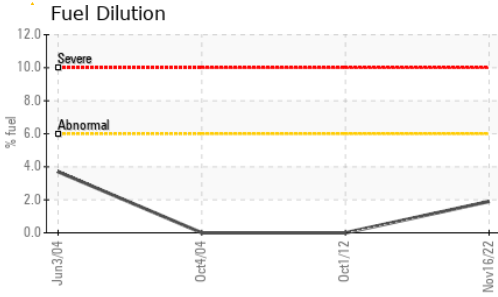
	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844 >3	0.6	0.8	0.7
Nitration	Abs/cm	*ASTM D7624 >20	7.5	7.7	7.3
Sulfation	Abs/.1mm	*ASTM D7415 >30	20.3	22.8	18

FLUID DEGRADATION

	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414 >25	15.2	15.2	9.9
Base Number (BN)	mg KOH/g	ASTM D2896 10.1	7.2	8.5	7.6



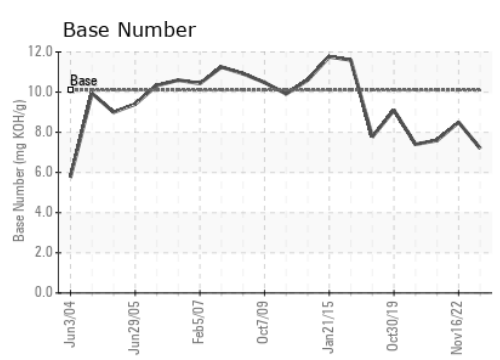
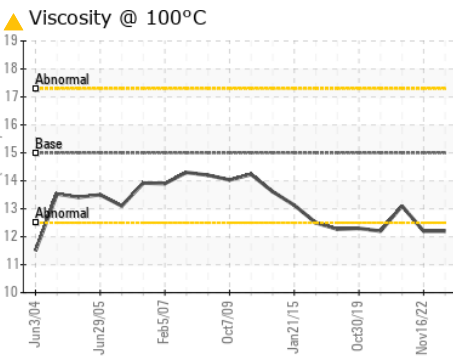
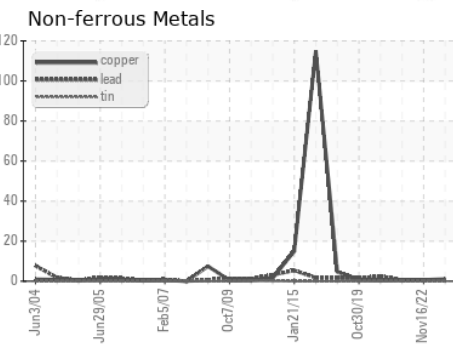
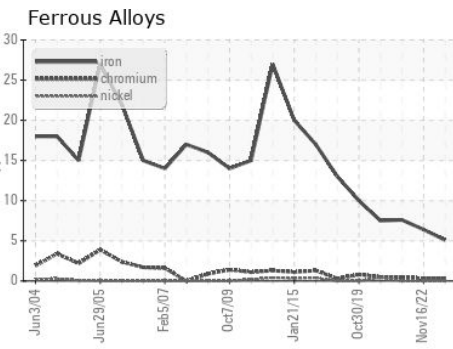
OIL ANALYSIS REPORT



VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.2	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15	▲ 12.2	▲ 12.2

GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0836894 **Received** : 02 Oct 2023
Lab Number : 05966906 **Diagnosed** : 04 Oct 2023
Unique Number : 10673457 **Diagnostician** : Jonathan Hester
Test Package : FLEET (Additional Tests: FuelDilution)

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To discuss this sample report, contact Customer Service at 1-800-237-1369.

* - Denotes test methods that are outside of the ISO 17025 scope of accreditation.

Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)